IA260 Series

RISC-based computers with 4 serial ports, dual LANs, VGA, DIO, CompactFlash, USB

- Cirrus Logic EP9315 ARM9 CPU, 200 MHz
- 128 MB RAM on-board, 32 MB flash disk
- 4 software-selectable RS-232/422/485 serial ports
- VGA interface for field site monitoring
- Dual 10/100 Mbps Ethernet for network redundancy
- 8+8 DI/DO channels, up to 30 VDC
- 12 to 48 VDC power input design
- Supports CompactFlash and USB 2.0 hosts
- Ready-to-run WinCE 6.0 platform
- H-type heat dissipation design for system reliability
- -40 to 75°C wide operating temperature model available

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.

Overview

The IA260 embedded computers come with 4 RS-232/422/485 serial ports, dual Ethernet ports, 8 digital input channels, 8 digital output channels, a VGA output, 2 USB hosts, and a CompactFlash socket. The computers are housed in a compact, IP40 protected, industrial-strength aluminum case.

The IA260 computers use the Cirrus Logic EP9315 ARM9, 32-bit, 200 MHz RISC CPU. This powerful computing engine supports several useful communication functions, but will not generate too much heat. The built-in 32 MB NOR Flash ROM and 128 MB SDRAM give you enough memory to run your application software directly on the IA260.

The patented "H-Type" heat dissipation design makes the IA260 an ideal computing unit for applications in extremely hot field sites, since it can directly transmit heat from inside the housing to the air.

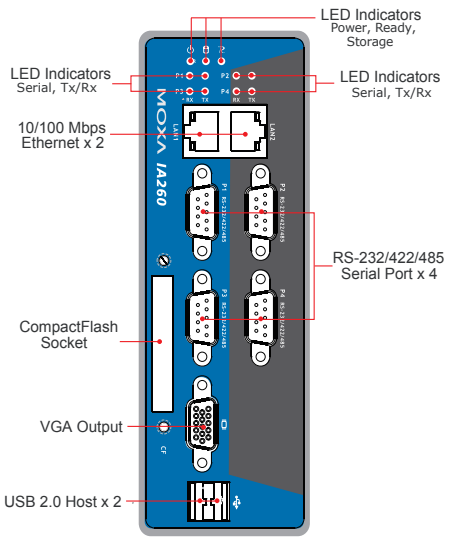
With its built-in VGA output interface, the IA260 computers are suitable for use with SCADA systems in industrial applications, such as factory automation, production line process monitoring, and mining automation, that require VGA and HMI features.

The IA260 computers support RS-232/422/485, digital I/O, and have dual LAN ports, making them ideal as communication platforms for industrial applications that require network redundancy. In addition to the standard model, a wide temperature (-40 to 75°C) model is available for use in harsh industrial automation environments.

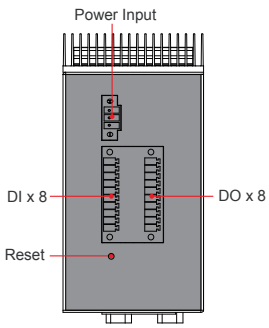
The IA260 runs WinCE 6.0 (pre-installed), providing a friendly environment for developing sophisticated application software. The great software support that Moxa provides makes the programmer's job easier and helps programmers develop bug-free code quickly and at a lower cost.

Appearance

Front View



Top View



Hardware Specifications

Computer

CPU: Cirrus EP9315 ARM9 CPU, 200 MHz

OS (pre-installed): Windows CE 6.0

DRAM: 128 MB onboard (optional 256 MB)

Flash: 32 MB onboard (optional 64 MB)

Storage Expansion: CompactFlash socket

USB: USB hosts x 2, compliant with USB 2.0 (OHCI) type A connectors

DI/DO: DI x 8, DO x 8, TTL

Reset Button: Supports "Reset to Factory Default"

LAN Interface

Ethernet: Auto-sensing 10/100 Mbps x 2, RJ45 connectors

Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface

Number of Ports: 4

Serial Standards: RS-232/422/485, software-selectable

Connectors: DB9 male

Console/Debugging Port: RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)

Serial Communication Parameters

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark

Flow Control: RTS/CTS, XON/XOFF, ADDC™ (automatic data direction control) for RS-485

Baudrate: 50 bps to 921.6 Kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals

RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND

RS-422: TxD+, TxD-, RxD+, RxD-, GND

RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND

RS-485-2w: Data+, Data-, GND

Digital Input

Input Channels: 8, source type

Input Voltage: 0 to 30 VDC at 5 KHz

Digital Input Levels for Dry Contacts:
- Logic level 0: Close to GND
- Logic level 1: Open

Digital Input Levels for Wet Contacts:
- Logic level 0: +3 V max.
- Logic level 1: +10 V to +30 V (COM to DI)

Connector Type: 10-pin screw terminal block (8 points, COM, GND)

Optical Isolation Protection: 3 KV

Digital Output

Output Channels: 8, sink type

Output Current: Max. 200 mA per channel

On-state Voltage: 24 VDC nominal, open collector to 30 V

Connector Type: 9-pin screw terminal block

Optical Isolation Protection: 3 KV

Display

Graphics Controller: EP9315 internal graphics accelerator engine with TTL graphical signal support

Display Memory: Dynamic video memory (shares system memory)

Graphics Resolution: 1024 x 768, 8 bits

Display Interface: CRT interface for VGA output, DB15 female connector

LEDs

System: Power x 1, Ready x 1, Storage x 1

LAN: 10M/Link x 2, 100M/Link x 2 (on connector)

Serial: TxD x 4, RxD x 4

Physical Characteristics

Housing: Aluminum, industrial vertical form factor

Weight: 1 kg

Dimensions: 52 x 112.6 x 162 mm (2.05 x 4.43 x 6.38 in)

Mounting: DIN-Rail, wall

Environmental Limits

Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)

Operating Humidity: 5 to 95% RH

Storage Temperature:
Standard Models: -20 to 80°C (-4 to 176°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)

Power Requirements

Input Voltage: Redundant power input design, 12 to 48 VDC (3-pin terminal block)

Power Consumption:
480 mA @ 12 VDC (with no load on USB ports)
900 mA @ 12 VDC (with load on 2 USB ports)

Regulatory Approvals

EMC: CE (EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A), CCC (GB9254, GB 17625.1)

Safety: UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), LVD (EN60950-1), CCC (GB4943)

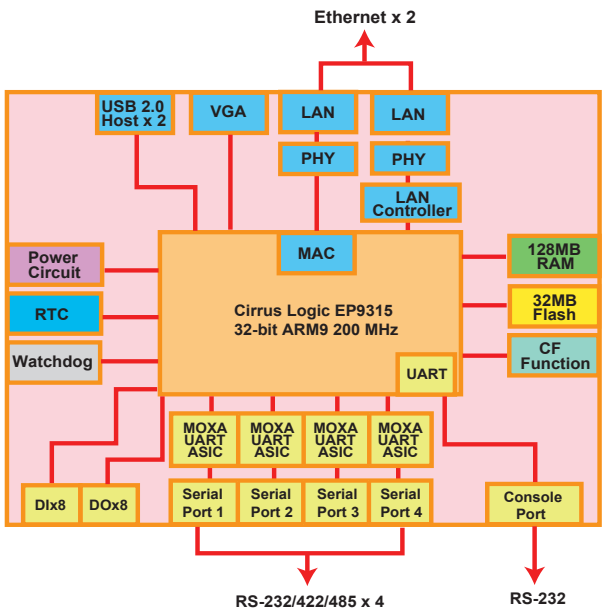
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

H/W Block Diagram



Software Specifications

Windows Embedded CE 6.0

System Utilities: Windows command shell, telnet, ftp, web-based administration manager

File System: FAT (on-board flash)

Protocol Stack: TCP, UDP, IPv4, SNMP, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, Telnet, FTP, PPP

Telnet Server: Allows remote administration through a standard telnet client.

FTP Server: Used for transferring files to and from remote computer systems over a network.

Web Server (httpd): Includes ASP, ISAPI Secure Socket Layer support, SSL 2, SSL 3, Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions.

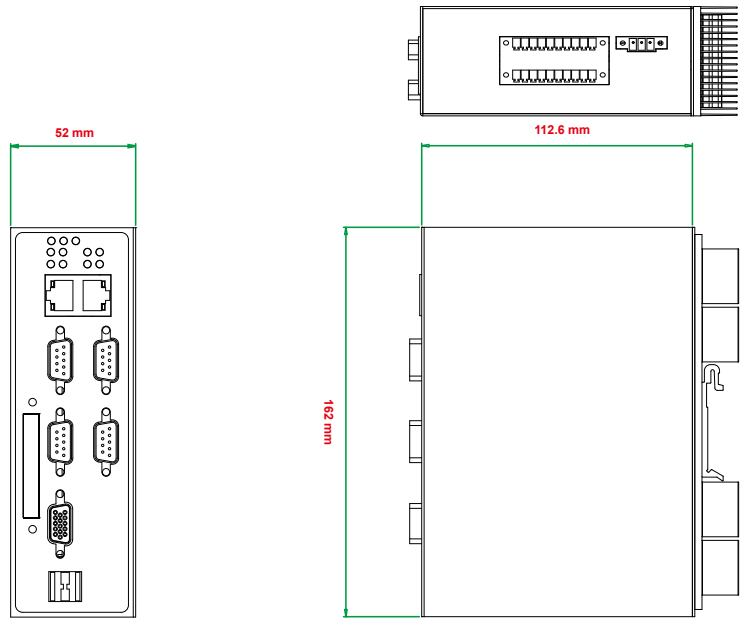
Dial-up Networking Service: RAS client API and PPP, supporting Extensible Authentication Protocol (EAP) and RAS scripting.

Watchdog Server: CPU hardware function for resetting the CPU in a user-specified time interval; activated by a Moxa library function

Application Development Environment:

- Moxa WinCE 6.0 SDK
- C Libraries and Run-times
- Component Services (COM and DCOM)
- Microsoft® .NET Compact Framework 2.0 with SP2
- XML, including DOM, XQL, XPATH, XSLT, SAX
- SOAP Toolkit
- Winsock 2.2
- CANopen library that conforms to DS301. V.4.02

Dimensions



Ordering Information

Available Models

IA260-CE: RISC-based embedded computer with 4 serial ports, DIO, dual LANs, VGA, CompactFlash, USB, Win CE 6.0 OS, standard operating temperature (-10 to 60°C)

IA260-T-CE: RISC-based embedded computer with 4 serial ports, DIO, dual LANs, VGA, CompactFlash, USB, Win CE 6.0 OS, wide operating temperature (-40 to 75°C)

Package Checklist

- IA260 or IA260-T computer
- Wall mounting kit
- DIN-Rail mounting kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-RJ45F9-150: 8-pin RJ45 to DB9 female console port cable, 150 cm
- CBL-RJ45M9-150: 8-pin RJ45 to DB9 male serial port cable, 150 cm
- Universal Power Adaptor
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card